

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-41. (Canceled)

42. (Currently Amended) A method for depositing a diamond-like carbon film comprising the steps of:

generating a plasma in a form of plane substantially perpendicular to a substrate for depositing the diamond-like carbon film; and

forming the diamond-like carbon film on a magnetic layer formed over [[a]] the substrate by a plasma chemical vapor deposition using the plasma.

43-86. (Canceled)

87. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 42, wherein the plasma has a cross-section in parallel to said substrate at a ratio (length thereof)/(width thereof) of 10 or more.

88. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 42, wherein the magnetic layer comprises a material containing one or more selected from the group consisting of Fe, Ni, Co and Cr.

89. (Currently Amended) A method for depositing a diamond-like carbon film comprising the steps of:

generating a plasma in a form of plane substantially perpendicular to a substrate for depositing the diamond-like carbon film;

forming the diamond-like carbon film on a magnetic layer formed over [[a]] the substrate by a plasma chemical vapor deposition using the plasma; and

moving the substrate while forming the diamond-like carbon film on the substrate in a direction perpendicular to the plane of the plasma.

90. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 89, wherein the plasma has a cross-section in parallel to said substrate at a ratio (length thereof)/(width thereof) of 10 or more.

91. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 89, wherein the magnetic layer comprises a material containing one or more selected from the group consisting of Fe, Ni, Co and Cr.

92. (Currently Amended) A method for depositing a diamond-like carbon film comprising the steps of:

providing first and second electrodes opposed to each other in a vacuum vessel, the first electrode having a gas supply slit;

introducing a gas through the gas supply slit into the vacuum vessel;
generating a ~~sheet-like beam-type sheet beam~~ plasma of the gas by applying a voltage between the first and second electrodes; and

forming the diamond-like carbon film on a magnetic layer formed over a substrate by a plasma chemical vapor deposition using the ~~sheet-like beam-type sheet beam~~ plasma,
wherein the sheet beam plasma extends perpendicularly from the first electrode toward the second electrode.

93. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 92, wherein the gas comprises $\text{Si}(\text{C}_x\text{H}_{2x+1})_{4-y}\text{H}_y$ where x is an integer of 1 or more, and y is an integer from 0 to 3.

94. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 92, wherein pressure in the vacuum vessel is in the range of from 0.1 to 800 Torr.

95. (Currently Amended) The method for depositing a diamond-like carbon film according to claim 92, wherein the ~~sheet-like beam-type sheet beam~~ plasma has a cross-section in parallel to said substrate at a ratio (length thereof)/(width thereof) of 10 or more.

96. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 92, wherein the gas supply slit has a ratio (length thereof)/(width thereof) of 5 or more.

97. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 92, wherein at least one of a surface of the first and second electrodes is covered with an electrical insulator.

98. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 92, wherein a gap between the first and second electrodes is 30 mm or less.

99. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 92, wherein the magnetic layer comprises a material containing one or more selected from the group consisting of Fe, Ni, Co and Cr.

100. (Currently Amended) A method for depositing a diamond-like carbon film comprising the steps of:

providing first and second electrodes opposed to each other in a vacuum vessel, the first electrode having at least one inlet having an opening elongated in a first direction;

introducing a gas through the gas supply slit into the vacuum vessel;

generating a ~~sheet-like beam-type sheet beam~~ plasma of the gas by applying a voltage between the first and second electrodes; and

forming the diamond-like carbon film on a magnetic layer formed over a substrate by a plasma chemical vapor deposition using the ~~sheet-like beam-type sheet beam~~ plasma,

wherein at each the at least one inlet the ~~sheet-like beam-type sheet beam~~ plasma extends from the first electrode toward the second electrode, and

wherein the sheet beam plasma extends perpendicularly from the first electrode toward the second electrode.

101. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 100, wherein the gas comprises $\text{Si}(\text{C}_x\text{H}_{2x+1})_{4-y}\text{H}_y$ where x is an integer of 1

or more, and y is an integer from 0 to 3.

102. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 100, wherein pressure in the vacuum vessel is in the range of from 0.1 to 800 Torr.

103. (Currently Amended) The method for depositing a diamond-like carbon film according to claim 100, wherein the ~~sheet-like beam-type~~ sheet beam plasma has a cross-section in parallel to said substrate at a ratio (length thereof)/(width thereof) of 10 or more.

104. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 100, wherein at least one of a surface of the first and second electrodes is covered with an electrical insulator.

105. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 100, wherein a gap between the first and second electrodes is 30 mm or less.

106. (Previously Presented) The method for depositing a diamond-like carbon film according to claim 100, wherein the magnetic layer comprises a material containing one or more selected from the group consisting of Fe, Ni, Co and Cr.